CLAIMS

1. A 1,2,4-triazole compound represented by formula (a):

25

- optionally substituted at a position other than 2-position or an optionally substituted 2-cyanopyridin-4-yl group, Rb represents an optionally substituted pyridyl or phenyl group, and Rc represents a group which makes the compound of formula (a) soluble in an organic solvent and which can be removed by an acid and which is bonded to any of the nitrogen atoms in the triazole ring, or a salt or hydrate thereof.
- 2. The 1,2,4-triazole compound, or the salt or hydrate thereof according to claim 1, wherein Rc is a group represented by formula (6)

-CH₂ORy (6)

(wherein Ry represents a substituted or unsubstituted alkyl
group), or diphenylmethyl or a p-alkoxybenzyl group.

3. The 1,2,4-triazole compound, or the salt or hydrate thereof according to claim 1 or 2, wherein the salt is ptoluenesulfonate, methanesulfonate, hydrochloride or sulfate.

4. A process for producing a compound represented by formula (3):

5

10

15

20

wherein Rd represents a pyridine N-oxide-4-yl group optionally substituted at a position other than 2-position, Rb represents an optionally substituted pyridyl or phenyl group, and Rc represents a group which makes the compound of formula (3) soluble in an organic solvent and which can be removed by an acid and which is bonded to any of the nitrogen atoms in the triazole ring, and a salt or hydrate thereof, which comprises reacting a compound represented by formula (1):

$$\begin{array}{c}
H \\
N - 1 - N \\
O \\
N
\end{array}$$
Rb (1)

wherein Rd and Rb are as defined above and the hydrogen atom is bonded to any of the nitrogen atoms in the triazole ring with a compound represented by formula (2):

$$Rc-X$$
 (2)

wherein Rc represents a group which makes the aimed compound soluble in an organic solvent and which can be removed by an acid and X represents a halogen atom or sulfonate residue.

5. A process for producing a compound represented by

formula (4):

5

10

15

20

wherein Ra represents an optionally substituted 2-cyanopyridin-4-yl group, Rb represents an optionally substituted pyridyl or phenyl group, and Rc represents a group which makes the compound of formula (3) soluble in an organic solvent and which can be removed by an acid and which is bonded to any of the nitrogen atoms in the triazole ring, and a salt or hydrate thereof, which comprises reacting a compound represented by formula (3):

wherein Rd represents a pyridine N-oxide-4-yl group optionally substituted at a position other than 2-position, and Rb and Rc are as defined above with a nitrilization agent.

6. A process for producing a compound represented by formula (4):

wherein Ra represents an optionally substituted 2cyanopyridin-4-yl group, Rb represents an optionally substituted pyridyl or phenyl group, and Rc represents a group which makes the compound of formula (3) soluble in an organic solvent and which can be removed by an acid and which is bonded to any of the nitrogen atoms in the triazole ring, and a salt or hydrate thereof, which comprises reacting a compound represented by formula (1):

5

10

15

20

wherein Rd represents a pyridine N-oxide-4-yl group optionally substituted at a position other than 2-position, Rb is as defined above and the hydrogen atom is bonded to any of the nitrogen atoms in the triazole ring with a compound represented by formula (2):

$$Rc-X$$
 (2)

wherein Rc represents a group which makes the aimed compound soluble in an organic solvent and which can be removed by an acid, and X represents a halogen atom or sulfonate residue to give a compound represented by formula (3):

wherein Rb, Rc and Rd are as defined above, and then reacting the resulting compound (3) with a nitrilization agent.

7. A process for producing a compound represented by

formula (5):

wherein Ra represents an optionally substituted 2-cyanopyridin-4-yl group, Rb represents an optionally substituted pyridyl or phenyl group, and the hydrogen atom is bonded to any of the nitrogen atoms in the triazole ring, and a salt or hydrate thereof, which comprises reacting a compound represented by formula (1):

$$\begin{array}{c}
H \\
N \stackrel{}{\longrightarrow} N \\
N \\
N
\end{array}$$
(1)

optionally substituted at a position other than 2-position,
Rb is as defined above and the hydrogen atom is bonded to
any of the nitrogen atoms in the triazole ring with a
compound represented by formula (2):

$$Rc-X$$
 (2)

15

5

wherein Rc represents a group which makes the aimed product soluble in an organic solvent and which can be removed by an acid, and X represents a halogen atom or sulfonate residue to give a compound represented by formula (3):

20

wherein Rc represents a group which makes the compound of

formula (3) soluble in an organic solvent and which can be removed by an acid and which is bonded to any of the nitrogen atoms in the triazole ring, and Rb and Rd are as defined above, and then reacting the resulting compound (3) with a nitrilization agent to give a compound represented by formula (4):

5

10

15

20

wherein Ra, Rb and Rc are as defined above, and further reacting the resulting compound with an acid.

8. A process for producing a compound represented by formula (5):

wherein Ra represents an optionally substituted 2-cyanopyridin-4-yl group, Rb represents an optionally substituted pyridyl or phenyl group, and the hydrogen atom is bonded to any of the nitrogen atoms in the triazole ring, and a salt or hydrate thereof, which comprises reacting a compound represented by formula (3):

wherein Rd represents a pyridine N-oxide-4-yl group optionally substituted at a position other than 2-position,

Rc represents a group which makes the compound of formula (3) soluble in an organic solvent and which can be removed by an acid and which is bonded to any of the nitrogen atoms in the triazole ring, and Rb is as defined above with a nitrilization agent to give a compound represented by formula (4):

$$\begin{array}{c}
Rc \\
N-1-N \\
O \\
Rb
\end{array}$$
(4)

5

10

15

wherein Ra, Rb and Rc are as defined above, and then reacting the resulting compound with an acid.

9. The process according to any one of claims 4-8, wherein Rc is a group represented by formula (6):

-CH₂ORy (6)

(wherein Ry represents a substituted or unsubstituted alkyl group), or diphenylmethyl or a p-alkoxybenzyl group.

10. The process according to any one of claims 4-9, wherein the salt is p-toluenesulfonate, methanesulfonate, hydrochloride or sulfate.